

The Process of Processing

Debra Walicki BS, MT(ASCP), BB, CRCI
Lehigh Valley Health Network, Debra.Walicki@lvhn.org

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The Process of Processing

Debra Walicki, BS, MT(ASCP), BB, CRCI, Advanced Specialty Research, NORI
Lehigh Valley Health Network, Allentown, Pa.

RESEARCH “SAFETY” LABS

CHEMISTRY

Measures levels of important electrolytes and other chemical substances in the blood that are released from body tissues or produced during breakdown of certain substances (Gold-, red-, or light green-top tubes)

Fill tube completely, thoroughly mix the blood by inverting tube gently. Label tube properly with patient's identification information.

Allow blood to clot for 30–60 minutes, tube standing upright.

Centrifuge tube at 1,500–2,000g for 10–15 minutes. (Lab directions may differ – follow sponsor directions.)

Aliquot serum into labeled cryovials per lab instructions.

Pack specimens per lab instructions for ambient shipment same day. Freeze samples and then follow lab instructions to pack on dry ice.

HEMATOLOGY

Provides important information about type, number and appearance of cells in the blood (EDTA, Lavender-top tube)

Fill tube completely, thoroughly mix blood by inverting tube gently 8–10 times to mix blood with anticoagulant. Label tube properly with patient's identification information.

Make blood smears using good technique.

Pack EDTA tube and labeled slides (in slide case) for same day shipment.



COAGULATION

Used to assess blood clotting function in patients (Sodium citrate, blue-top tube)

Fill tube completely, thoroughly mix blood by inverting tube gently 8–10 times to mix blood with anticoagulant. Label tube properly with patient's identification information.

Centrifuge tube at 1,500–2,000g for 10–15 minutes (lab directions may differ – follow sponsor directions.)

Aliquot serum into labeled cryovials per lab instructions. Some laboratories may require a second centrifugation to be sure the plasma is platelet-poor.

Pack specimens per lab instructions for ambient shipment same day. Freeze samples and then follow lab instructions to pack on dry ice.

URINALYSIS

Checks appearance, concentration and content of urine to help in diagnosis of some common diseases

Urine cup – collection may or may not be clean-catch, depending on sponsor instructions. Label cup properly with patient's identification information.

Using a sterile pipette, transfer urine to a labeled conical tube with preservative.

Pack specimens per lab instructions for ambient shipment same day.



RESEARCH “SPECIALTY” LABS

PHARMACOKINETICS

Usually involves taking several blood samples over a period of time from study participants to determine how the body handles the investigative substance.

- ▶ Serum (SST, gold- or red-top tubes)
- ▶ Plasma (EDTA, lavender-top tube)

Fill tube completely, thoroughly mix blood by inverting tube gently 8–10 times. Label tube properly with patient's identification information.

Allow blood to clot for 30–60 minutes, tube standing upright.

Centrifuge tube at 1,500–2,000g for 10–15 minutes. Lab directions may differ – follow sponsor directions.

Aliquot serum into labeled cryovials per lab instructions.

Freeze immediately. Store in freezer. Pack and ship as directed by study sponsor.

BIOMARKERS

Objective, quantifiable characteristics of biological processes
Examples: Cholesterol in CHD; PSA in prostate CA

SERUM

- ▶ Gold-top tube
- ▶ Clot upright 30–60 min.
- ▶ Centrifuge at instructed speed and time
- ▶ Transfer into labeled cryovials
- ▶ Freeze
- ▶ Pack on dry ice and ship as directed

PLASMA

- ▶ EDTA, lavender-top tube
- ▶ Mix tube gently
- ▶ Pack tube with ice packs for refrigerated shipment
- OR
- ▶ Centrifuge per instructions
- ▶ Transfer to labeled cryovials
- ▶ Pack on dry ice and ship as directed by sponsor

URINE

- ▶ Collection cup
- ▶ Transfer to cryovials using a pipette
- ▶ Freeze
- ▶ Pack on dry ice and ship as directed

CSF

- ▶ Sterile polypropylene tube
- ▶ Doctor will collect CSF
- ▶ May need to centrifuge depending on sponsor instructions
- ▶ Using sterile pipette, transfer CSF into labeled polypropylene cryovials
- ▶ Freeze immediately
- ▶ Pack on dry ice and ship as directed

RNA

Gives molecular picture of what's going on in an individual's cells at a given point in time. (2 Paxgene tubes)

These tubes must be collected last and a butterfly collection must be used for the phlebotomy.

Hold the Paxgene blood tube vertically below the patient's arm during blood collection so there is no backflow of the stabilization reagent into the patient.

Gently invert tube 8–10 times to mix blood with stabilization reagent.

Store tube upright at room temperature a minimum of 2 hours, maximum 72 hours.

Transfer to refrigerator (2–8°C) or freezer (–20°C). If long-term storage is needed, Paxgene tube can be put into a –70°C freezer after it has been in the –20°C freezer for at least 24 hours. Sponsor/lab may require same-day shipping or batch shipment monthly. Tubes are fragile and must be handled carefully, packed with cushioning material and generally shipped on dry ice.

ANTIBODIES

Proteins in blood that are produced by the body in response to specific antigens. Used to test a product's immunogenicity by measuring antibodies generated against the drug. (Gold- or red-top tube.)

After collection, tube should clot for 30–60 minutes, standing upright.

Centrifuge according to central lab's recommendation for speed and duration.

Aliquot serum into labeled cryovials per lab instructions.

Freeze, pack and ship on dry ice when indicated in lab manual. Ship ambient same day. Pack and ship per lab manual instructions.